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EXAMINER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,011	Applicant(s) EGNER ET AL.	
	Examiner Ed Baird	Art Unit 3695	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) 11-21 and 32-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 22-31 and 43-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Applicant has amended claims 1, 3, 4, 7, 9, 10, 22, 24, 25, 28, 30, 31, and 43. Claims 45-52 have been added. No claims have been canceled. Claims 11-15 and 32-36 had been canceled prior to last office action, and claims 16-21 and 37-47 had been withdrawn from consideration prior to last office action. Hence, claims 1-10, 22-31 and 43-52 remain pending and are presented for examination.

Response to Arguments

2. Applicant's arguments and amendments filed on **23 November 2009** with respect to

- rejection to claims 1 – 10, 43 and 44 under U.S.C. § 101,
- rejections of claims 1, 7, 9, 22, 28 and 30 under U.S.C. § 112, second paragraph,
- rejections of claims 1 – 10, 22 – 31, 43 and 44 under 35 U.S.C. § 103(a),

have been fully considered.

3. Examiner acknowledges amendments to claim 1 to overcome rejections to claims 1-10 under U.S.C. § 101 and, in turn, withdraws rejections. However, revised claim language in claims 43 and 44 does not overcome rejections. See § 101 rejections below.

4. Examiner acknowledges amendments to claims 1, 7, 9, 22, 28 and 30 to overcome 35 U.S.C. § 112, 2nd paragraph rejections and, in turn, withdraws rejections.

5. Applicant's arguments filed with respect to claims 1 – 10, 22 – 31 and 43 – 52 regarding the 35 U.S.C. § 103(a) rejections have been fully considered but they are not persuasive.

6. Applicant argues **Adduci** does not teach *using a computer system for determining a subscriber profit proxy for a plurality of subscribers in the wireless network* [Remarks page 17 and 18]. However, Examiner respectfully disagrees.

Examiner clarifies point that the *Net Present Value (NPV)* is indicative of Applicant's **subscriber profit proxy** in as much as the present value of cash flow indicates the internal rate of return. Per **Adduci**:

"Internal rate of return means the rate of return that applies when the present value (*Examiner's emphasis added*) of cash flow plus the final market value of the enhanced wireless service business equals the current market price for establishing the enhanced wireless service business. Return on investment means the income or profit (*Examiner's emphasis added*) that an investment provides during a certain time period" [column 16 lines 18-24].

Hence, Examiner maintains that the *return on investment* is indicative of Applicant's **subscriber profit proxy**.

7. Applicant argues neither **Adduci** nor **Elliot** teach *using the computer system for determining a number of minutes of use over a period of time for one or more of the subscribers*" [Remarks page 18]. However, Examiner respectfully disagrees.

Examiner maintains that **Elliot's demand for service** is indicative of Applicant's **number of minutes of use over a period of time for one or more of the subscribers** in as much as *real-time* is indicative of Applicant's **period of time**. Per **Elliot**:

"Also, a service provider may determine actual service coverage of the wireless network in real-time according to actual demand for service (*Examiner's emphasis added*), as opposed to estimating the service coverage from measurements determined at other times and locations" [column 2 lines 53-57].

In addition, **Adduci** discloses determining *usage rate among subscribers*. Per **Adduci**:

"The application tailoring module 36 estimates the usage rate of the enhanced wireless communications services based on the adjusted adoption curve for each corresponding application. The usage rate may represent the number of subscribers of enhanced wireless communications services or the traffic demand for enhanced wireless communications service. If the wireless data service is used to support multiple different

applications, the contribution of subscribers or users from each different application may be aggregated to obtain a total usage rate for the enhanced wireless service.

The usage estimator 66 and the infrastructure configurator 68 cooperate to estimate the size of the telecommunications infrastructure requirements necessary to support the subscribers of the enhanced wireless communications service or applications supported by the enhanced wireless communications service. The infrastructure configurator 68 bases the size of the wireless infrastructure requirement upon the total usage rate determined by the usage estimator 66" [column 8 line 52 – column 9 line 3].

Examiner notes that the *usage rate representing the number of subscribers* as disclosed by **Adduci** is indicative of Applicant's ***number of minutes of use over a period of time for one or more of the subscribers***.

8. Applicant argues **Adduci** does not teach ROI is based on the three factors (1) subscriber profit proxy, (2) number of minutes of use over a period of time, and (3) service quality metric for the one or more sectors (claim 1) [Remarks pages 18 and 19]. However, Examiner respectfully disagrees.

Adduci clearly discloses providing financial analysis:

"In accordance with the invention, a method and system for providing a financial analysis for enhanced wireless communication services provides a financial analysis for a service provider or another user interested in the provision of enhanced wireless communications services. The method includes accepting user input related to an existing wireless communications service and a proposed enhanced wireless communications service" [column 3 lines 1-10].

Further, **Adduci** discloses:

"The financial analysis may include or more of the following financial metrics: net present value (NPV), internal rate of return (IRR), return on investment (ROI) (*Examiner emphasis added*), and payback period of the enhanced communications services. Net present value refers to the present value of future net cash flow of the enhanced wireless communications service over a certain period of time, where the initial

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investment in the enhanced wireless communications service is subtracted from the net present value. If a net present value is positive, then an investment is considered viable. Internal rate of return means the rate of return that applies when the present value of cash flow plus the final market value of the enhanced wireless service business equals the current market price for establishing the enhanced wireless service business. Return on investment means the income or profit that an investment provides during a certain time period. Net present value is expressed in a selected currency, internal rate of return may be expressed as a percentage, and return on income may be expressed as a percentage that is pretax and excluding depreciation of the wireless infrastructure” [column 16 lines 9-28].

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci’s** disclosure to calculate the *return on investment (ROI) based on subscriber profit proxy (i.e. profit), number of minutes of use over a period of time, and service quality metric for the one or more sectors* because determining return on investment is a prime purpose of financial analysis.

9. Examiner notes that the statement of “determining an investment return per sector for one or more of the sectors” (emphasis added) as recited in claim 1 is merely a statement of intended use.

The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

(A) statements of intended use or field of use,

(B) "adapted to" or "adapted for" clauses,

(C) "wherein" clauses, or

(D) "whereby" clauses.

This list of examples is not intended to be exhaustive. See also MPEP § 2111.04.

10. Accordingly, Examiner maintains the § 103 rejections, as discussed above, but updates claim rejections for revised claim language.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

12. Claims 43-52 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

13. **Claims 43-52**, method claims, are rejected under 35 U.S.C. §101 because, in order to comply with §101 a process/ method must (1) be tied to a particular machine or apparatus, or (2) transform underlying subject matter (such as an article or materials) to a different state or thing.

The methods recited in the claims fail to (1) be tied to a particular machine or apparatus, or (2) transform underlying subject matter to a different state or thing. *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972).

There are two corollaries to the machine-or-transformation test. First, a mere field-of-use limitation is generally insufficient to render an otherwise ineligible method claim patent eligible. This means the machine or transformation must impose meaningful limits on the method claim's scope to pass the test. Second, insignificant extra-solution activity will not transform an unpatentable principle into a patentable process. This means reciting a specific

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machine or a particular transformation of a specific article in an insignificant step, such a data gathering or outputting, is not sufficient to pass the test.

There is no recitation within the claims to indicate that the steps that comprise the method are nothing but mental steps performed within the mind of a person. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

Applicant Admitted Prior Art

14. Applicant has failed to traverse the Examiner's **Official Notice** given in the last Office Action regarding the well known nature of dependent **claims** 2, 3, 23 and 24. Hence, the limitations:

- *marketing costs and maintaining existing customers* are indicative of **subscriber contracts**, and
 - subscriber profit proxy is based on expected duration of a subscriber contact.
- is now taken to be **applicant's admitted prior art (AAPA)** as per MPEP 2104 C.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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16. Claims 1, 4, 22 and 25, are rejected under 35 U.S.C. 103(a) as being unpatentable over **Adduci et al** (US Patent No. 7,343,334) in view of **Elliott** (US Patent No. 7,158,790).

17. Regarding **claim 1 and 22**, **Adduci** teaches:

- using a computer system for determining a subscriber profit proxy for a plurality of subscribers in the wireless network [see at least column 15 lines 6 – 8, and column 16 lines 9 – 28] – Examiner interprets *net present value (NPR)* and *return on investment* as indicative of Applicant's **subscriber profit proxy**;
- using the computer system for determining a number of minutes of use over a period of time for one or more of the subscribers [column 8 line 52 – column 9 line 3];
- using the computer system for determining an investment return per sector for one or more of the sectors, wherein the investment return is based upon the subscriber profit proxy for the plurality of subscribers, the number of minutes of use over the period of time for the one or more of the subscribers sectors [see at least column 16 lines 9 – 53] – Examiner interprets *return on investment (ROI)* as analogous to Applicant's investment return per sector. Examiner notes applying *financial analysis* to different *geographic regions* as indicative of Applicant's application to **one or more of the sectors**.

and the service quality metric for the one or more sectors in the wireless network [discussed below]; and
- using the computer system for selecting an area for capital investment, the selecting based at least in part on the investment return per sector [column 16 lines 38-53] – *“procurement of telecommunications infrastructure”*.
- using a computer system to accomplish above limitations [column 4 lines 4-15].

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- a computer program product having a computer program product for accomplishing these steps (*claim 22*) [see at least column 2 lines 30-44 and column 5 lines 26- 43].

Adduci does not explicitly disclose:

- using the computer system for determining a service quality metric for one or more sectors in the wireless network;

However, **Elliott** teaches *a system for improving the service coverage of wireless networks by making measurements of the service coverage of the wireless network* [column 2 lines 30 – 44, column 4 lines 56 – 67, and claim 1]. He further discloses *gathering information indicating quality of service coverage and determining actual service coverage of the wireless network in real-time according to actual demand for service* [see at least column 2 lines 45 – 61]. Examiner interprets *demand for service* as further indicative of Applicant's **number of minutes of usage of the subscribers**.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *quality of service coverage and a demand for service* as taught by **Elliott** because these features can provide an improvement in the service coverage of wireless networks [**Elliott** column 2 lines 30 – 35].

18. Regarding **claim 4 and 25**, **Adduci** teaches:

- the minutes of use over the period of time is based on call detail records collected during peak usage periods [see at least column 6 lines 42 – 60].

19. Claims 2, 3, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Adduci** in view of **Elliott** in further view of **Official Notice**.

20. Regarding **claim 2 and 23**, **Adduci** teaches:

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- revenue collected from the subscriber, an expected number of months under a contract, an acquisition cost, and, a service delivery cost [see at least column 5 lines 38 – 54]

Examiner takes **Official Notice** that *marketing costs* and *maintaining existing customers* are indicative of Applicant's **subscriber contracts** in that one skilled in the art at the time of the instant invention would be aware of such contracts in wireless communication services.

21. Regarding **claim 3 and 24**, **Adduci** teaches:

- subscriber profit proxy (SPP) value determined by the equation:

$$SPP_i = V_i * M_i - A_i - S_i$$

wherein

- V_i is the revenue per month for subscriber i [see at least column 5 lines 26 – 43];
- M_i is the expected months for subscriber i [Id.];
- A_i is the acquisition cost for subscriber i [Id.]; and
- S_i is the service delivery cost for subscriber i [Id.].

Examiner interprets *revenue segment* as indicative of Applicant's **revenue per month** and **months** of service. Examiner interprets *investment, start-up costs, and marketing, advertising and promotional costs* as indicative of Applicant's **acquisition cost**. Examiner interprets *maintenance costs for supporting the enhanced wireless services* as indicative of Applicant's **service delivery cost**.

Adduci does not explicitly disclose expected months under contact for a subscriber.

However, Examiner takes **Official Notice** that it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *expected duration of a subscriber contract* because such contracts are used to guarantee future revenue.

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22. Claims 5 – 10, 26 – 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Adduci** in view of **Elliott** in further view of **Weller et al** (US Patent No. 7,107,224).

23. Regarding **claims 5, 6, 26 and 27**, neither **Adduci** nor **Elliott** explicitly discloses:

- the service quality metric comprising a dropped call rate for each sector; and
- the dropped call rate determined from call detail records collected from each sector.

However, **Weller** teaches a system and method of value-driven build-to-buy decision analysis which includes a demand component and a supply component [column 1 lines 55 – 65]. She applies her system and method to "self-service buying" of cellular phone service over the internet [see at least column 5 lines 48 - 56]. She discloses using parameters such as area of usage, minutes per month of usage, and the number of calls that get dropped [column 5 line 61 – column 6 line 20]. She further uses these parameters to develop "components of value" for the customer [see at least column 7 lines 3 – 38]. These include the intangible costs (based on the customer's willingness to pay) of having no coverage and experiencing dropped calls. Examiner interprets that *intangible cost related to dropped calls* as analogous to Applicant's **service quality metric**.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *accounting for dropped call rates* as taught by **Weller** because, by accounting for such *quality* issues, a customer can make meaningful comparisons between the intangible values of "quality" and "coverage" and the tangible value of "cost" [**Weller** column 6 lines 9 – 20].

24. Regarding **claims 7 and 28**, **Weller** teaches the limitations:

- determining a profit per sector;
- determining a dropped-call rate per sector;
- determining an investment needed per sector to reduce dropped calls in each sector;

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- determining the investment return per sector based at least in part on the profit per sector, the dropped-call rate per sector.

as discussed in the rejections of claims 5, 6, 26 and 27, above. **Weller** does not explicitly disclose:

- determining the investment needed per sector to reduce dropped calls in each sector.

However, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Weller's** disclosure to include *determining the investment needed to recover dropped calls* because such intangible costs are determined in order that they may be corrected.

25. Regarding **claims 8 and 29**, **Adduci** teaches determining the profit per sector by summing the subscriber profit proxy value for each subscriber [see at least column 15 lines 5 – 50 and column 16 lines 9 -28]. Examiner interprets revenue analysis which includes *average revenue per user per month by customer segment* as indicative of Applicant's **profit per sector**.

Adduci does not explicitly disclose determining a profit based on the ratio of minutes usage in one sector to minutes usage in all sectors. However, **Elliott** discloses *determining actual service coverage of the wireless network in real-time according to actual demand for service* [see at least column 2 lines 45 – 61]. Examiner interprets *demand for service* as indicative of Applicant's **number of minutes of usage of the subscribers**, as discussed in the rejection of claims 1 and 22. Accordingly, these claims are rejected for the same reasons.

26. **Claims 9 and 30** are substantially similar to claims 7 and 28, respectively, and are thus rejected for the same reasons.

27. Regarding **claims 10 and 31**, **Weller** teaches the limitations:

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- the selecting the area for the capital investment involves prioritizing the sectors based upon the investment return for each respective sector [see at least column 10 lines 1 – 7].

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *prioritize investments* as taught by **Weller** because it allows companies to get the best possible returns [**Weller** column 10 lines 1 – 7].

28. Claims 43, 44 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Adduci** in view of **Elliott** in further view of **Scheinert** (US Patent No. 5,787,344).

29. Regarding **claim 43**, **Adduci** teaches:

- determining a subscriber profit proxy for a plurality of subscribers in the wireless network [see at least column 15 lines 6 – 8, and column 16 lines 9 – 28] – Examiner interprets *net present value (NPR)* and *return on investment* as indicative of Applicant's **subscriber profit proxy**;
- determining a number of minutes of use over a period of time for one or more of the subscribers [column 8 line 52 – column 9 line 3];
- determining an investment return per sector for one or more of the sectors, wherein the investment return is based upon the subscriber profit proxy for the plurality of subscribers, the number of minutes of use over the period of time for the one or more of the subscribers sectors [see at least column 16 lines 9 – 53] – Examiner interprets *return on investment (ROI)* as analogous to Applicant's investment return per sector. Examiner notes applying *financial analysis* to different *geographic regions* as indicative of Applicant's application to **one or more of the sectors**.

and the service quality metric for the one or more sectors in the wireless network [discussed below]; and

- ***analyzing an area for capital investment***, the selecting based at least in part on the investment return per sector [column 16 lines 38-53] – “*procurement of telecommunications infrastructure*”.
- using a computer system to accomplish above limitations [column 4 lines 4-15].
- a computer program product having a computer program product for accomplishing these steps (*claim 22*) [see at least column 2 lines 30-44 and column 5 lines 26- 43].

Adduci does not explicitly disclose:

- determining a service quality metric for one or more sectors in the wireless network;

However, **Elliott** teaches *a system for improving the service coverage of wireless networks by making measurements of the service coverage of the wireless network* [column 2 lines 30 – 44, column 4 lines 56 – 67, and claim 1]. He further discloses *gathering information indicating quality of service coverage and determining actual service coverage of the wireless network in real-time according to actual demand for service* [see at least column 2 lines 45 – 61]. Examiner interprets *demand for service* as further indicative of Applicant’s **number of minutes of usage of the subscribers**.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci’s** disclosure to include *quality of service coverage and a demand for service* as taught by **Elliott** because these features can provide an improvement in the service coverage of wireless networks [**Elliott** column 2 lines 30 – 35].

Neither **Adduci** nor **Elliott** explicitly discloses the added limitation of:

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- modifying the wireless network by deploying additional equipment to a base transceiver station (BTS) serving at least one sector, the modifying based at least in part on the analyzing the area for the capital investment.

However, **Scheinert** teaches an *arrangement and method of arranging base transceiver stations and a method of subsequently compressing an existing continuous radio network* [column 1 lines 5-12]. He further discloses *compressing an already existing radio network* [column 5 lines 46-48].

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *modifying the wireless network by deploying additional equipment to a base transceiver station* as taught by **Scheinert** because by modifying existing base transceiver stations is not as costly as investing in "new sites" [**Scheinert** column 5 lines 46-63].

30. Regarding **claim 44**, **Adduci** teaches:

- the additional equipment is selected from the group consisting of: a radio tower, an antenna, a radio, a cable, and combinations thereof [see at least column 7 lines 4-20].

31. Regarding **claim 47**, **Adduci** teaches:

- the minutes of use over the period of time is based on call detail records collected during peak usage periods [see at least column 6 lines 42 – 60].

32. Claims 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Adduci** in view of **Elliott** in further view of **Scheinert** and in further view of **Official Notice**.

33. Regarding **claim 45**, **Adduci** teaches:

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- revenue collected from the subscriber, an expected number of months under a contract, an acquisition cost, and, a service delivery cost [see at least column 5 lines 38 – 54].

Examiner takes **Official Notice** that *marketing costs* and *maintaining existing customers* are indicative of Applicant's **subscriber contracts** in that one skilled in the art at the time of the instant invention would be aware of such contracts in wireless communication services.

34. Regarding **claim 46**, **Adduci** teaches:

- subscriber profit proxy (SPP) value determined by the equation:

$$SPP_i = V_i * M_i - A_i - S_i$$

wherein

- V_i is the revenue per month for subscriber i [see at least column 5 lines 26 – 43];
- M_i is the expected months for subscriber i [Id.];
- A_i is the acquisition cost for subscriber i [Id.]; and
- S_i is the service delivery cost for subscriber i [Id.].

Examiner interprets *revenue segment* as indicative of Applicant's **revenue per month** and **months** of service. Examiner interprets *investment, start-up costs, and marketing, advertising and promotional costs* as indicative of Applicant's **acquisition cost**. Examiner interprets *maintenance costs for supporting the enhanced wireless services* as indicative of Applicant's **service delivery cost**.

Adduci does not explicitly disclose expected months under contact for a subscriber.

However, Examiner takes **Official Notice** that it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *expected duration of a subscriber contract* because such contracts are used to guarantee future revenue.

35. Claims 48-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Adduci** in view of **Elliott** in further view of **Scheinert** in further view of **Weller**.

36. Regarding **claim 48**, neither **Adduci** nor **Elliott** explicitly discloses:

- the service quality metric comprising a dropped call rate for each sector; and

However, **Weller** teaches a system and method of value-driven build-to-buy decision analysis which includes a demand component and a supply component [column 1 lines 55 – 65]. She applies her system and method to "self-service buying" of cellular phone service over the internet [see at least column 5 lines 48 - 56]. She discloses using parameters such as area of usage, minutes per month of usage, and the number of calls that get dropped [column 5 line 61 – column 6 line 20]. She further uses these parameters to develop "components of value" for the customer [see at least column 7 lines 3 – 38]. These include the intangible costs (based on the customer's willingness to pay) of having no coverage and experiencing dropped calls. Examiner interprets that *intangible cost related to dropped calls* as analogous to Applicant's **service quality metric**.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *accounting for dropped call rates* as taught by **Weller** because, by accounting for such *quality* issues, a customer can make meaningful comparisons between the intangible values of "quality" and "coverage" and the tangible value of "cost" [**Weller** column 6 lines 9 – 20].

37. Regarding **claim 49**, **Weller** teaches the limitations:

- determining a profit per sector;
- determining a dropped-call rate per sector;
- determining an investment needed per sector to reduce dropped calls in each sector;

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- determining the investment return per sector based at least in part on the profit per sector, the dropped-call rate per sector.

as discussed in the rejections of claims 5, 6, 26 and 27, above. **Weller** does not explicitly disclose:

- determining the investment needed per sector to reduce dropped calls in each sector.

However, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Weller's** disclosure to include *determining the investment needed to recover dropped calls* because such intangible costs are determined in order that they may be corrected.

38. Regarding **claim 50**, **Adduci** teaches determining the profit per sector by summing the subscriber profit proxy value for each subscriber [see at least column 15 lines 5 – 50 and column 16 lines 9 -28]. Examiner interprets revenue analysis which includes *average revenue per user per month by customer segment* as indicative of Applicant's **profit per sector**.

Adduci does not explicitly disclose determining a profit based on the ratio of minutes usage in one sector to minutes usage in all sectors. However, **Elliott** discloses *determining actual service coverage of the wireless network in real-time according to actual demand for service* [see at least column 2 lines 45 – 61]. Examiner interprets *demand for service* as indicative of Applicant's **number of minutes of usage of the subscribers**, as discussed in the rejection of claims 1 and 22. Accordingly, these claims are rejected for the same reasons.

39. **Claim 51** is substantially similar to claims 49 and is thus rejected for the same reasons.

40. Regarding **claim 52**, **Weller** teaches the limitations:

- the analyzing the area for the capital investment involves prioritizing the sectors based upon the investment return for each respective sector [see at least column 10 lines 1 – 7].

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Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *prioritize investments* as taught by **Weller** because it allows companies to get the best possible returns [**Weller** column 10 lines 1 – 7].

Conclusion

The prior art of record and not relied upon is considered pertinent to Applicant's disclosure:

- **Oh et al**: "Air interface simulator and method thereof", (US Patent No. 6,438,357).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ed Baird whose telephone number is (571)270-3330. The examiner can normally be reached on Monday - Thursday 7:30 am - 5:00 pm Eastern Time.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles R. Kyle can be reached on 571-272-6746. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ed Baird/
Examiner, Art Unit 3695

/Narayanswamy Subramanian/
Primary Examiner, Art Unit 3695